

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P1005262P WO	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/DE2004/001259	International filing date (<i>day/month/year</i>) 17.06.2004	Priority date (<i>day/month/year</i>) 28.06.2003
International Patent Classification (IPC) or national classification and IPC		
Applicant MAHLE FILTERSYSTEME GMBH		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☒ (sent to the applicant and to the International Bureau) a total of 2 sheets, as follows:

☒ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the report
<input type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input checked="" type="checkbox"/>	Box No. VII	Certain defects in the international application
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

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International application No.

PCT/DE2004/001259

Box No. I

Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-10 as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. _____ as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* 1-4 received by this Authority on 04.05.2005 with letter
- nos.* _____ received by this Authority on of 03.05.2005
- ☒ the drawings:
- sheets 1/1 as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	<u>1-4</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-4</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-4</u>	YES
	Claims		NO
2. Citations and explanations (Rule 70.7)			
1.1 The present application relates to an adsorption filter for fuel vapours, in particular from the fuel tank of the internal combustion engine of a motor vehicle. The filter can be regenerated by desorptive counter-current backflushing and the adsorbing and desorbing material contained in the feature comprises heat-storage substances made of phase-change materials distributed inside the filter material.			
1.2 Document US-A-5861050 (D1) is regarded as the closest prior art (cf., in particular, figure 1 and claim 1). The subject matter of the present claim 1 differs from the filter disclosed in D1 in that the phase-change material has different phase-change boundaries, as relates to temperature, in the flow direction of the adsorption filter. This differentiating feature makes it possible to keep the temperature of the filter material at a relatively low level during the entire adsorption process, favouring a high adsorption effect. During the desorption process, the temperature can be kept at a relatively high			

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
	<p>level, favouring the desorption of fuel vapours (see pages 4-6).</p>
1.3	<p>According to D1, heat-storage substances having different phase-change temperatures may be present inside the filter material (cf. column 5, lines 26-30). However, D1 does not disclose that such substances have different phase-change boundaries, as relates to temperature, in the flow direction of the adsorption filter. Apparently, these substances are uniformly distributed in the filter material of D1.</p> <p>The remaining available prior art documents also fail to suggest the use of the claimed distribution of the phase-change material inside the filter material of D1, and therefore the subject matter of the present independent claim 1 meets the requirements of PCT Article 33(2) and 33(3).</p>
2.	<p>Dependent claims 2-4 relate to particular embodiments of the subject matter of claim 1 and thus also meet the requirements of PCT Article 33(2) and 33(3).</p>
3.	<p>The subject matter of all the claims should be regarded as industrially applicable (PCT Article 33(4)).</p>

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Box No. VII **Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

1. The publication number "US2002/0176857" on page 1
 should read "US2002/0174857".